

Method for Correcting Noise Errors in a Digital Signal**ABSTRACT**

An apparatus and method for processing a received signal that has been corrupted by a
5 channel to generate a processed signal having less signal corruption than the received signal
is disclosed. The apparatus stores the received signal, information specifying the probability
that a symbol having a value I will be converted to a symbol having a value J by the channel,
and information specifying a signal degradation function that measures the signal degradation
that occurs if a symbol having the value I is replaced by symbol having a value J. The
10 controller replaces each symbol having a value I in a context of that symbol in the received
signal with a symbol having a value J that minimizes the overall signal degradation in the
processed signal relative to the underlying noise-free signal as estimated via the observed
statistics within that context.